

## Notes on *Oxytropis* sect. *Mesogaea* (Fabaceae) in Iran, with the description of a new species

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*Oxytropis sorkhehensis* Ranjbar *sp. nova* (Fabaceae) is described from Iran and illustrated. Diagnostic characters, a description and taxonomic comments on the species are given. It is compared with a morphologically similar species, *O. thaumasiomorpha*. *Oxytropis pilosa* is a new record from this group for Iran.

Key words: new species, *Oxytropis* sect. *Mesogaea*, taxonomy

*Oxytropis*, belonging to the tribe Astragaleae of Papilionoideae in the Fabaceae, comprises about 300 species occurring in the cold mountainous regions of Europe, Asia, and North America, and is most diverse in central Asia (Polhill 1981). Bunge (1874) classified 181 species of *Oxytropis* into four subgenera and 19 sections. Boissier (1872) in *Flora Orientalis* placed eight species into two sections, namely *Phacoxytropis* and *Euoxytropis*, while Vasil'chenko (1984) in *Flora Iranica* placed 40 species into two subgenera, *Oxytropis* and *Euoxytropis*. In recent taxonomic studies for flora of Iran, Ranjbar (1999) considered some of the names to be synonymous and excluded some of the records. The identification of the species of the genus is very difficult and often confusing. Even after the work by Vasil'chenko (1988) in *Flora Iranica* the Iranian taxa are still in need of a new revision.

*Oxytropis* sect. *Mesogaea* includes 19 species in *Flora Iranica*. It is one of the taxonomically difficult sections. The species are perennial herbs, sparsely to loosely covered with white and

black, appressed to spreading hairs, mostly with imparipinnate leaves, stipules free from petioles, and pendulous pods. They are distributed in several SW Asian countries, but Iran and Afghanistan with 11 species are the most important distribution centers.

### ***Oxytropis sorkhehensis* Ranjbar, *sp. nova*** (Fig. 1)

*Oxytropis thaumasiomorphae* K. H. Rechinger *affinis*, *sed stipulis 4–6 (nec 10–12) mm longis, foliis 5–9-jugis (nec 3–5-jugis), calycibus 3.2–4 (nec 5–5.5) mm longis, dentes 1.2–1.5 (nec circa 2) mm longos ferentibus, leguminibus pilis omnino albis 0.2–0.5 mm longis (nec albis nigri-sque, magis quam 1 mm longis) obtectis differt.*

TYPE: N Iran. Semnan: subalpine near Sorkkeh, 1200–1400 m, 20.VI.2004 *Maddah 4105* (holotype Bu-Ali-Sina Univ. Herbarium; isotype TARI).

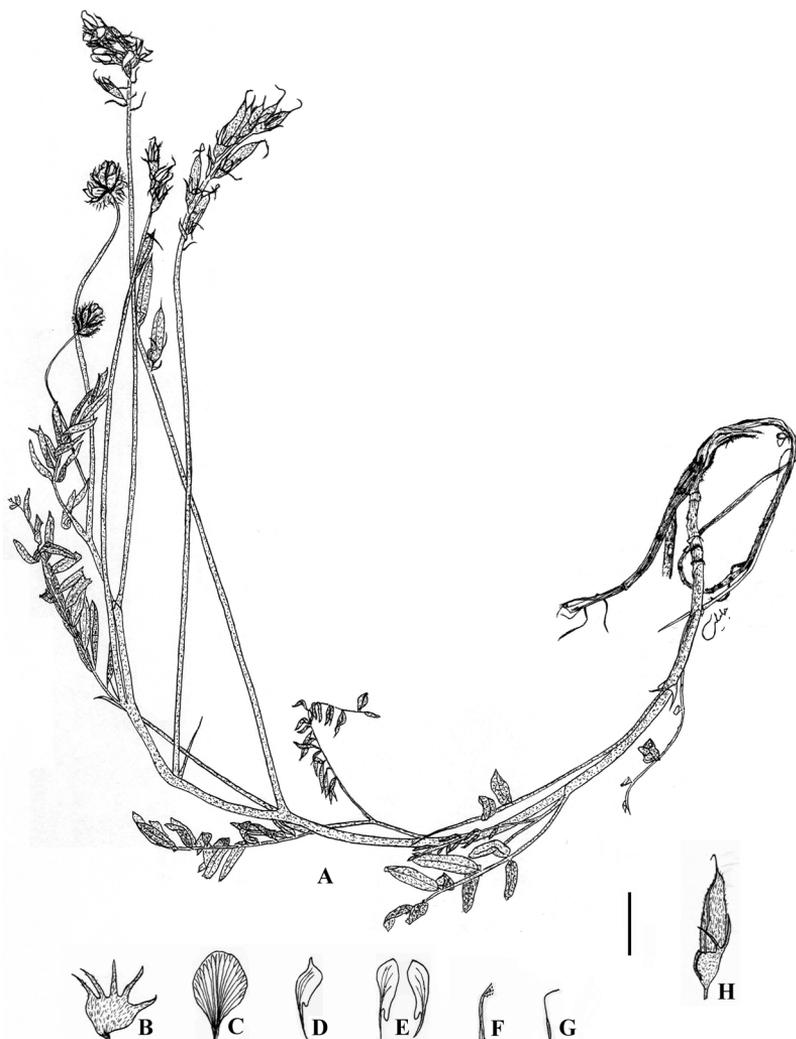
ETYMOLOGY: This species is named after Sorkkeh in southwestern Seman.



**Fig. 1.** *Oxytropis sorkhehensis* (from the holotype). — **A:** Habit. — **B:** Calyx. — **C:** Standard. — **D:** Wing. — **E:** Keel. — **F:** Stamens. — **G:** Ovary. — **H:** Pod. — **I:** Seed. Scale bars: **A** = 1.5 cm, **B–I** = 0.5 cm.

Perennial, up to 55 cm tall, with numerous wiry stems from a tough rootstock, sparsely covered with appressed white hairs 0.3–0.5 mm long; stems simple or branched only near base, internodes more developed. Caudex up to 10 mm long, with rather long, thick branches, covered with remnants of old stipules and petioles. Stipules 10–12 × 3–8 mm, foliaceous, semiconnate, ovate-triangular, adnate to petiole for 1–1.5 mm, sparsely covered with appressed white hairs 0.3–0.5 mm long. Leaves imparipinnate 5–12 cm long, petioles of lower leaves up to 1.5–2 cm long, upper often shorter up to 1 mm long, sparsely to loosely covered with appressed white hairs like rachis. Leaflets in 5–9 pairs, ovate, ovate-elliptic, 10–20 × 7–11 mm, acute to obtuse

or rarely retuse at apex, rarely slightly shortly mucronulate, loosely to sparsely appressed hairy beneath 0.3–0.8 mm long, above without hairs, green. Inflorescence rather dense before anthesis, 14–20-flowered, becoming elongated in flower and fruit and up to 5–10 cm long. Peduncle 6–15 cm long, ascending, exceeding leaves, fairly densely to loosely covered with appressed hairs 0.3–0.5 mm long, 1–1.2 mm thick. Bracts 1.5–2 mm long, linear, greenish-membranous. Pedicels 1.5–2.5 mm long, hairy, upper flowers often with short pedicel; flowers erect to slightly spreading. Calyx 3.2–4 mm long, tubular, loosely covered by short appressed white and black hairs 0.3–0.5 mm long; teeth narrowly linear to subulate, 1.2–1.5 mm long. Corolla bluish-violet. Standard 7–8 mm



**Fig. 2.** *Oxytropis pilosa* (from Gharemani, Imani & Talbpour 5311). — **A:** Habit. — **B:** Calyx. — **C:** Standard. — **D:** Keel. — **E:** Wings. — **F:** Stamens. — **G:** Ovary. — **H:** Pod. Scale bars: **A** = 2 cm, **B–H** = 1 cm.

long, blade 4–5 mm wide, obovate, emarginate at apex, gradually attenuate to base. Wings more or less equaling standard, 5–7 mm long, rounded at apex; blades 4–4.5 × 1.5–2 mm; auricle minute, claw 2–3 mm long. Keel 5–5.5 mm long, shorter than wings; blades elliptic, round at apex, 2–3 × ca. 1.5 mm; auricle indistinct, claw 2–2.5 mm long. Staminal tube obliquely cut. Ovary with a stipe ca. 0.5 mm long, linear, glabrous; style glabrous. Legumes 14–16 mm long, oblong, straight, subdensely to loosely covered with appressed white hairs, 0.2–0.5 mm long. Seeds subtriangular, 2–2.5 mm long, ca. 1.5 mm wide. Flowering and fruiting May to June.

*Oxytropis sorkhehensis* is a narrowly distributed endemic species and known only from the

dry zone from gypsum hills located in the north-central parts of Iran, in SW Semnan, around Sorkeh village. *Oxytropis thaumasiomorpha* has similar pods, flowers and leaflets, but *O. sorkhehensis* differs from it by several characters (see Table 1).

## New record for Iran

### *Oxytropis pilosa* (L.) DC. (Fig. 2)

Astragalogia: 91. 1802.

The new locality is in the Iranian Azarbaijan Province close to the south Nakhichevan and

**Table 1.** Morphological comparison between *O. thaumasmorpha* and *O. sorkhehensis*.

Taxon	<i>O. thaumasmorpha</i>	<i>O. sorkhehensis</i>
Plant length (cm)	70–90	up to 55
Leaflet shape	linear-lanceolate	ovate, ovate-elliptic
Leaflet size (mm)	20–35 × 2–4	10–20 × 7–11
Number of leaflet pairs	3–5	5–9
Stipule length (mm)	4–6	10–12
Color of pod indumentum	white and black	white
Pod hair length (mm)	villous (more than 1)	moliter (0.2–0.5)
Calyx length (mm)	5–5.5	3.2–4
Pod beak length (mm)	2–3	1–1.5
Calyx teeth length (mm)	ca. 2	1.2–1.5

Azarbaijan border. It is in mountainous limestone slopes in oak forest, near Kalaleh village, at an altitude of 1300 m. The species was previously known from a large area outside Iran, including east Europe, European Russia, Ukraine, Caucasus, Middle Asia, and Siberia.

**SPECIMEN EXAMINED.** — **Iran.** North Azarbaijan: Arasbaran forest, Kalaleh village, 1300 m, 7.VI.2001 *Gharemani, Imani & Talbpour 5311* (Bu-Ali-Sina Univ. Herbarium).

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